



2016 303(d) List
RESPONSES TO PUBLIC COMMENTS

Public Notice
October 1, 2015 – January 31, 2016

Missouri Department of Natural Resources
Water Protection Program
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INTRODUCTION

Pursuant to 40 CFR 130.7, States, Territories and authorized Tribes must submit biennially to the U.S. Environmental Protection Agency (EPA) a list of water-quality limited (impaired) segments, pollutants causing impairment, and the priority ranking of waters targeted for Total Maximum Daily Load (TMDL) development. The Missouri Department of Natural Resources (department) placed the draft 2016 303(d) List of impaired waters on public notice from Oct. 1, 2015 to Jan. 31, 2016. All original comments received during this public notice period are available online on the department's website at <http://dnr.mo.gov/env/wpp/waterquality/303d/303d.htm>. Comments were received from the following groups or individuals:

Newman, Comley and Ruth P.C. Law Firm
City of Independence
Boone County
City of Springfield
EPA, Region 7
Missouri Department of Conservation

This document summarizes and paraphrases the comments received, provides the department's responses to those comments, and notes any changes made to the final draft 2016 303(d) List of Impaired Waters or supporting documentation. A priority ranking of impaired waters for TMDL development will be produced and placed on public notice following approval of the 2016 303(d) List by the Missouri Clean Water Commission.

Newman, Comley and Ruth comments

Cave Springs Branch (WBID 3245U-01) – Category 4A water body

No data was offered to support the 1998 impairment listing for Cave Springs Branch other than a suggestion the watercourse had unsightly bottom deposits. In 2010, the Clean Water Commission approved the removal of Cave Springs Branch from the Missouri impaired waters list, but the EPA reinstated the listing without any additional data to suggest unsightly bottom deposits persisted. A discussion regarding wastewater treatment facility upgrades completed by Simmons Foods, in addition to chemical and biological report summaries were provided as evidence the watercourse is no longer impaired for unsightly bottom deposits. It is recommended that Cave Springs Branch be removed from the 303(d) List and the TMDL be rescinded.

Department Response

Cave Springs Branch has not been included on the draft 2016 303(d) List of impaired waters and therefore cannot be “removed” from the list. The department recognizes and appreciates the facility upgrades completed by Simmons Foods to improve their

wastewater treatment processes. In 2010, CSB was moved from Category 5 (i.e., the 303(d) List) of Missouri's Integrated Report to Category 4A, due to EPA approval of the Cave Springs Branch TMDL to address total nitrogen and total phosphorus attributed to cause the excess production of benthic (bottom growing) algae (<http://dnr.mo.gov/env/wpp/tmdl/docs/3245u-01-cave-springs-br-tmdl.pdf>). The TMDL recognizes that improvements to the wastewater treatment facilities at Simmons Foods, Inc., have improved water quality in CSB and, as the comment references, the department has monitored these improvements. However, land application of poultry litter and fertilizer can and do continue to cause or contribute to nutrient loading in the Cave Springs Branch watershed. In this respect, the TMDL should not be considered invalid and reductions in nutrient loading, particularly through reductions from nonpoint sources, are still relevant and implementable to meet TMDL targets.

Furthermore, the purpose of a TMDL is to determine the pollutant loading a water body can assimilate without exceeding Missouri's Water Quality Standards. The EPA guidance document "Considerations for Revising and Withdrawing TMDLs," recommends that "existing TMDLs not be withdrawn simply because the load and wasteload allocations have been implemented successfully and the water is now attaining water quality standards. EPA recommends that such "successful" TMDLs remain in place to ensure that water quality standards continue to be maintained in the future, and that their water quality analyses and allocation targets continue to inform permit writers' and stakeholders' efforts to maintain those water quality standards." As discussed previously with Simmons Foods and its consultants, a successful water quality attainment demonstration would place Cave Springs Branch in an attaining category within Missouri's Integrated Report and future enhancement to the facility with regard to nutrients may not be necessary. Should Simmons Foods wish to pursue this option further, please contact the department's Watershed Protection Section, Monitoring and Assessment Unit. No changes were made to the proposed 2016 303(d) List as a result of this comment.

Middle Fork Black River (WBID 2744)

This water body was originally listed in 2012, but was removed from the 303(d) List during the 2014 listing cycle. Documentation was provided that supported the 2014 delisting decision.

Department Response

The department appreciates Newman, Comley and Ruth bringing this oversight to the department's attention. This water body was inadvertently added back to the impaired waters list during the current listing cycle. The waterbody will be reinstated into

Category 2B within Missouri's Integrated Report for the aquatic life protection use. A comment was added to the Middle Fork Black River assessment worksheet and the department's assessment database to note this change.

West Fork Black River (WBID 2755) – Category 4A water body

The Doe Run Company requests the department remove the West Fork Black River nutrient impairment from the 303(d) List. The West Fork Black River was placed on the 1998 impaired list for nutrients 0.2 miles downstream of the West Fork Mine. A department study completed in 2002 and 2003 found low levels of chlorophyll in the stream, and the West Fork Doe Run discharge cannot be determined conclusively as contributing a significant nutrient load resulting in increased periphyton growth. To date, the department nor EPA has produced any studies to document the general criteria or recreational uses have been impaired by nutrients in the West Fork Black River, nor evidence that benthic algae is impairing recreational uses.

Department Response

West Fork Black River has not been included on the draft 2016 303(d) List of impaired waters for nutrient impairment and therefore cannot be “removed” from the list. During the 2008 303(d) listing cycle, the department recommended removing the West Fork Black River from the impaired waters list for nutrients. The recommendation for delisting was not approved by EPA. In 2010, WFBR was moved from Category 5 (i.e., the 303(d) List) of Missouri's Integrated Report to *Category 4A*, due to EPA establishing a TMDL for nutrients to address the impairment. The TMDL was developed by EPA, Region 7 as a result of a 2001 consent decree, *American Canoe Association, et al. v. EPA, No.98-1195-CV-W in consolidation with No. 98-4282-CV-W, February 27, 2001*. The TMDL is based upon water quality measurements for total nitrogen, total phosphorus, chlorophyll, and flow data collected from 2001 to 2009. The nutrient data is attached as Appendix A of the West Fork Black River TMDL <http://dnr.mo.gov/env/wpp/tmdl/docs/2755-w-fk-black-r-tmdl.pdf>.

The department agrees that available studies and information suggest that West Fork Black River is on a path toward attaining applicable water quality standards. As discussed previously with the Doe Run Company and its consultants, a successful water quality attainment demonstration would place West Fork Black River in an attaining category within Missouri's Integrated Report and future enhancement to the facility with regard to nutrients may not be necessary. Should the Doe Run Company wish to pursue this option further, please contact the department's Watershed Protection Section, Monitoring and Assessment Unit. No changes were made to the proposed 2016 303(d) List as a result of this comment.

The City of Independence comments

Little Blue River (WBID 0422)

Additional U.S. Geological Survey (USGS) bacterial data is available for the Little Blue River at 39th Street (site number 06893910) from 2006 to 2009. The USGS has been sampling the Little Blue River and other waters under a cooperative agreement with the City of Independence to satisfy requirements of the City's Municipal Separate Storm Sewer System (MS4) permit. This site is located upstream from most of the City of Independence's MS4.

Department Response

The department was unaware this data existed and appreciates the information. The department will include the site information and data in future listing cycles. No changes were made to the proposed 2016 303(d) List as a result of this comment.

The City of Independence also provided a comment that relates to the TMDL development, rather than the listing process itself, due to concerns about future TMDL requirements that may be established for the Independence MS4. Based upon a USGS report, increased bacteria densities correlated with increased suspended sediment during storms at all sites. Therefore, when the department develops the Little Blue River TMDL, please keep the following in mind:

- *If storm water influenced samples are included, the Little Blue River exceeds the bacteria standard for whole body contact before the river enters the City of Independence.*
- *TMDL development efforts may require a broader scope beyond the MS4 to address non-human sources of bacteria.*

Because of the predominance of non-human sources and re-suspension issues, the department should make TMDL development for this section of the Little Blue River a low priority.

Department Response

The department appreciates the comment and will share it with the Water Protection Program, Watershed Protection Section, TMDL/Modeling Unit. No changes were made to the proposed 2016 303(d) List as a result of this comment.

Spring Branch (WBID 5004)

The City of Independence provided a comment regarding the USGS gage located on the bridge at Holke Road. Dissolved oxygen data was collected from this site for a number of years from 2005-2007, but the data was rated as “poor” by the USGS and not representative of the stream due to rip rap catching debris and sediment. The monitoring site was subsequently relocated downstream. The USGS also provided follow-up information about this site and agreed the data was not representative of instream conditions.

Department Response

The department appreciates the information. This monitoring site was removed from the assessment worksheet and the data reassessed. The revised assessment indicates that Spring Branch is unimpaired by low dissolved oxygen, and therefore will be removed from the draft 2016 303(d) List.

Boone County comments

Little Cedar Creek (WBID 0744)

The Little Cedar Creek at Zaring Road is located far upstream from the section of stream that is proposed for listing on the 2016 303(d) List. This site appears to be located below a box culvert where the stream only flows following precipitation events. During baseflow conditions, a pool of water is retained below the box culvert, and the county believes this is an inappropriate site for sampling dissolved oxygen. In addition, during the informational meeting it was discussed that USGS stream flow data was not included. Therefore, there are no indications that flow patterns in the Little Cedar Creek were different during 1999 to 2002.

Department Response

Based upon the comment, and information provided during the Nov. 3, 2015 public availability meeting, department staff confirmed the site location provided on the draft 2016 303(d) List was incorrect. Further investigation revealed the dissolved oxygen data was not collected from Little Cedar Creek, thereby making the assessment invalid. This water body will be removed from the draft 2016 303(d) List due to these assessment errors.

The City of Springfield comments

Ward Branch (WBID 2374)

The City provided a comment and supporting information regarding the impairment listing on Ward Branch for pH. The City believes the listing should be removed for multiple reasons. The pH data were collected following a first flush event, and were not measured according to EPA procedures. In addition, other data collected as part of a Section 319 Nonpoint Source grant project did not indicate a pH impairment in Ward Branch.

Department Response

The department appreciates the clarification regarding how pH data was collected and analyzed from Ward Branch. Since the data are not considered representative of annual ambient conditions, and were not collected or analyzed following EPA protocols, the data will not be used for assessing Ward Branch. Therefore, this water body will be removed from the draft 2016 303(d) List and a comment will be added to the Ward Branch assessment worksheet for future reference.

Regarding the Ward Branch assessment workbook, the City recommended that the department should either completely remove the tab labeled "Inverts" or clearly note that until such time appropriate reference stream data are collected, existing biological data cannot be used for impairment decisions, and references to macroinvertebrate score criteria and explicit statements of impairment should also be removed.

Department Response

The department agrees with the City in this instance, but would like to note that other chemical or biological data are often provided as supplemental information to support a listing or delisting determination. Since the pH impairment listing will be removed from the draft 2016 303(d) List, the Ward Branch assessment workbook will be removed from the department's webpage as it is no longer applicable.

Wilsons Creek (WBID 2375)

The City of Springfield provided a comment in favor of delisting Wilsons Creek for polycyclic aromatic hydrocarbons (PAHs) based upon additional data resulting in a geometric mean less than 150 percent of the probable effect concentration (PEC) threshold. Additionally, toxicity data recently made available on EPA's Storage and Retrieval (STORET) website provides strong evidence that there are no toxicity issues in

Wilsons Creek. In addition, the "Sediment PAHs" assessment worksheet states that PAHs exceeded 150 percent of the PEC thresholds upstream of the Southwest Treatment Plant. However, this assertion is not supported by the data table, which shows the PAH geometric mean is below 150 percent upstream of the Southwest Treatment Plant. The City requests the department correct this issue in the listing worksheet.

Department Response

Department staff reviewed the information and agrees the data is promising with respect to water quality status of the creek. However, the department would like some additional information and further evaluation of this data before supporting a de-listing decision. The department agrees that an assessment worksheet for sediment should not have been included with the impairment listing for E. coli. However, it should be noted that the EPA also provided a comment regarding Wilsons Creek which required a correction to the sediment assessment worksheet. A department response addressing the correction can be found under EPA comments for this water body.

In addition, the City provided a comment that the department should either completely remove the tab labeled "Inverts" or clearly note that until such time appropriate reference stream data are collected, existing biological data cannot be used for impairment decisions. References to macroinvertebrate score criteria and explicit statements of impairment should be removed. The City also finds the use of fish Index of Biotic Integrity (IBI) metrics questionable and suggests renaming the tab labeled "Community-4A", which incorrectly suggests that Wilsons Creek is currently on the 305(b) category 4A and has a completed TMDL.

Department Response

As previously noted in the response for Ward Branch, other chemical or biological data are often included to support a listing or delisting decision. The department agrees, however, that the assessment worksheet for "Inverts" should not have been included with the impairment listing for Escherichia coli, or E. coli. Biological data does not directly support a bacteriological impairment, therefore, the assessment worksheet should have been removed under these circumstances. However, as previously stated EPA also provided a comment on Wilsons Creek that caused the community tab to be retained. Therefore, in response to this comment, the department has added a note to the assessment worksheet stating the TDML was vacated and the assessment worksheet tab was also relabeled.

Jordan Creek (WBID 3374)

The City of Springfield finds that the department's rationale for listing Jordan Creek as impaired does not meet the weight of evidence requirements outlined in the 2016 Listing Methodology Document (LMD). The draft list identifies Jordan Creek as impaired based upon sediment samples that exceeded the 150 percent of the PEC threshold for PAH compounds. However, sediment data alone is not sufficient for listing Jordan Creek as impaired.

Department Response

Department staff reviewed the information and agrees the data is promising with respect to water quality status of the creek. However, the department would like some additional information and further evaluation of this data before supporting a de-listing decision.

The 2013 sediment data was not previously assessed by the department due to the timing of when the data became available during the 2014 listing cycle. The 2013 sediment data was collected and assessed by EPA. Benthic sediment data was collected to determine if pollutants within the sediments were contributing to the aquatic life impairment. The EPA placed Jordan Creek on the 2014 303(d) List for PAHs in sediment following the 2014 LMD approved by the Clean Water Commission May 2, 2012 (2014 EPA approval memo: <http://dnr.mo.gov/env/wpp/waterquality/docs/2014-epa-approval-memo.pdf>). In reviewing the available data during the 2016 listing cycle, the category 5 (303(d) List) decision was retained by the department. As stated, the geometric mean of sediment data was assessed following the 2014 LMD at 150 percent of the PEC thresholds for PAH compounds. The 150 percent PEC versus the 100 percent PEC threshold provides a conservative assessment of sediment toxicity and its potential for toxicity to aquatic life. In reviewing the sediment data collected in 2013, the geometric mean for the PAH compounds exceeded the 150 percent thresholds anywhere between 50 percent and 106 percent, indicating an increased potential for sediment toxicity.

The City of Springfield also commented that the department includes aquatic biological data as part of its rationale. The City states the data should not be used until such time as appropriate reference stream data is available. The City believes it is inappropriate to make listing decisions based on such data. Either completely remove the tab labeled "Community-4A" or clearly note that until such time appropriate reference stream data is collected, existing biological data cannot be used for impairment decisions. In addition, fish IBI scores only apply to streams of 3rd to 5th order in size in the Ozark ecoregion. The Community-4A tab incorrectly suggests that Jordan Creek is currently in 305(b) category 4A and has a completed TMDL.

Department Response

The department would like to reiterate that other chemical or biological data are often provided as supplemental information to support a listing or delisting determination.

In February 2013, the US District Courts vacated the Wilsons Creek and Jordan Creek TMDLs (<http://dnr.mo.gov/env/wpp/tmdl/2375-wilsons-3374-jordan-cks-record.htm>). These water bodies should have been reinstated into a category 5 listing and retained on the 303(d) List. However, during the 2014 listing cycle EPA approved the department's request for Jordan Creek to be moved from a Category 5 listing to Category 3B (available data suggested noncompliance but there is insufficient data to conduct a full assessment in accordance with the LMD - 2014 EPA approval memo: <http://dnr.mo.gov/env/wpp/waterquality/docs/2014-epa-approval-memo.pdf>). In response to this comment, the department has added a note to the assessment worksheet stating the TMDL was vacated and the worksheet tab was re-labeled.

Regarding the Fish IBI scores provided on the Jordan Creek assessment worksheet, it appears this information has been provided on the assessment worksheet since 2010. This information was based upon data presented in a Springfield City Utilities study report. The results of this study were used to support the original placement of Jordan Creek in a Category 5 listing due to a decline in biodiversity in the aquatic community.

Per the City of Springfield, recent toxicity data is available from the EPA Storage and Retrieval (STORET) website and provides strong evidence there are no toxicity issues in Jordan Creek. The City also provided a summary of toxicity data collected from Jordan Creek and a biocriteria reference site on May 19, 2015 and June 23, 2015.

Department Response

The department was unaware that 2015 data was uploaded to the EPA STORET website. For the 2016 assessment cycle, the EPA STORET website was queried and all available data was downloaded in October, 2014. Any data uploaded to the EPA STORET website after this time was not available for the 2016 assessment. No changes were made to the proposed 2016 303(d) List as a result of these comments.

North Branch Wilsons Creek (WBID 3811)

The City of Springfield provided a comment stating it finds the department's supporting rationale for listing North Branch Wilsons Creek as impaired does not meet the weight of evidence requirements outlined in the 2016 LMD. North Branch Wilsons Creek is

impaired for zinc based on sediment data that exceeds 150 percent of the PEC. Missouri's LMD states the department will use a weight of evidence analysis for evaluating all narrative criteria and in the case of toxic chemicals occurring in benthic sediment rather than water, the numeric thresholds used to determine the need for further evaluation will be the PEC. Accordingly, exceedences of PEC values should only be used to place water bodies in category 3B of the LMD, or as part of the weight of evidence analysis. Without additional data or biological or toxicity data, there is insufficient evidence that North Branch Wilsons Creek is impaired. The city requests North Branch Wilsons Creek be delisted.

Department Response

The 2013 sediment data was not previously assessed by the department due to the timing of when the data became available during the 2014 listing cycle. The 2013 sediment data were collected and assessed by EPA. The EPA placed North Branch Wilsons Creek on the 2014 303(d) List for elevated zinc in sediment following the 2014 LMD approved by the Clean Water Commission on May 2, 2012. New information was not available at the time of the 2016 assessment cycle to justify a change to the listing determination. This water body will be prioritized for additional monitoring. No changes were made to the proposed 2016 303(d) List as a result of this comment.

Pearson Creek (WBID 2373)

The City of Springfield does not support the department's listing of Pearson Creek for an aquatic life impairment stating the department compared Pearson Creek biological data to inappropriate reference stream data. In addition, the worksheet tab labeled "Invert-5" should be either removed or all reference to impairment decision be deleted along with references to macroinvertebrate score criteria. It should be noted until such time that appropriate reference stream data is collected, existing biological data cannot be used for impairment decisions.

Department Response

Pearson Creek was originally placed in Category 5 during the 2002 assessment cycle due to reduced aquatic biodiversity caused by unknown toxicity. In 2011 a TMDL was developed by EPA, but was later vacated (see below response for additional information). During the 2014 listing cycle, the department requested the water body be removed from Category 5 and placed into Category 3B (available data suggested noncompliance but there is insufficient data to conduct a full assessment in accordance with the LMD) based on a public comment received from the City of Springfield that the aquatic macroinvertebrate community was inappropriately assessed against biological reference

streams provided within Table I of Missouri's Water Quality Standards. EPA rejected the delisting of Pearson Creek because it was originally listed as impaired for a documented decline in biotic diversity due to unknown pollutants. This cause of impairment was not dependent upon an assessment of the state's Macroinvertebrate Stream Condition Index (MSCI) score procedure (<http://dnr.mo.gov/env/wpp/waterquality/docs/2014-epa-approval-memo.pdf>). Additional studies by the department have been scheduled to determine if the biotic diversity in Pearson Creek has improved since its original listing.

The City of Springfield also had questions and concerns regarding a biological study completed by URS Corporation and the methodology followed.

Department Response

The Pearson Creek biological study was completed by URS Corporation in 2009 under contract with EPA. A copy of the report was obtained from EPA and provided to the City. According to the report, titled "Sampling for Consent Decree Waters In Missouri: Pearson Creek Springfield, MO Task Order No. 2008-54", the aquatic macroinvertebrates were collected following the departments sampling and enumeration protocols for field work and analysis [footnote: MoDNR Semi-Quantitative Macroinvertebrate Stream Bioassessment Project Procedure and MoDNR Stream Habitat Assessment Project Procedure]. The macroinvertebrate samples were then sorted, and identification and calculation of performance metrics were completed, by the Ozarks Environmental and Water Resources Institute (OEWRI) in accordance with department protocols.

The City of Springfield noted the assessment worksheet only presents one habitat score and it is unclear what the value in the worksheet represents.

Department Response

Following the department's protocol, one habitat assessment is completed once per site per season (fall or spring). The department's habitat scores have been added to the assessment worksheet. The URS report provided habit scores, but the department was uncertain how these scores compared to reference stream conditions. A specific reference stream was not discussed in the URS report, and therefore, the URS data was removed from the Pearson Creek assessment worksheet. This revision did not change the Category 5 listing determination.

The City of Springfield commented that the assessment worksheet indicates that 95 percent of the reference streams score 16 or higher. Does this mean that on the

assessment date 8/7/2015, 95 percent of the streams scored 16 or above, or is the value adjusted over time? It would seem likely that the percentage would change over time.

Department Response

The department appreciates the question and opportunity for clarification. Additional information and details have been added to the assessment worksheet to explain the reference stream percentage scores per sampling season.

The City of Springfield noted that four of the samples are more than seven (7) years old from the original listing date (2014). The department is supposed to provide a written justification for using the data on the assessment worksheets.

Department Response

The 2004, 2005, 2009, and 2014 macroinvertebrate studies have not indicated changes in the watershed that would cause the “older” data to no longer be considered representative of current conditions. Without additional information indicating the data is no longer representative, it is reasonable to assume the older data is still representative. According to EPA guidance, the data should not automatically be treated as unrepresentative of relevant segment conditions solely on the basis of age without supporting information indicating that the data are not a good indicator of current conditions. An explanation for utilizing the "older" data has been added to the Pearson Creek assessment worksheet.

Per the City of Springfield recent toxicity data available for the EPA STORET website provides strong evidence that there are no toxicity issues in Pearson Creek. The City provided a summary of the toxicity data from Pearson Creek and a biocriteria reference site for samples collected on May 19, 2015 and June 23, 2015.

Department Response

The department was unaware that 2015 data was uploaded to the EPA STORET website. For the 2016 assessment cycle, the EPA STORET website was queried and all available data downloaded in October 2014. Any data uploaded to the EPA STORET website after this time was not available for the 2016 assessment. No changes were made to the proposed 2016 303(d) List as a result of these comments.

Although many of the Springfield area waters will remain on the impaired waters list, current and future efforts by the city will help inform the prioritization of these waters for future watershed restoration efforts. Where long-term strategies exist for the pollutants of concern, the department has flexibility to delay Total Maximum Daily Load (TMDL) development in lieu of other administrative measures, such as Category 5-Alt, on the state’s integrated report. Upon approval of the 2016 303(d) list by the commission, the

department will begin prioritization of impaired waters for future watershed restoration efforts.

The department appreciates the efforts of the City of Springfield toward developing comprehensive, long-term strategies for addressing water quality concerns as part of their Integrated Plan for the Environment. The city's efforts to address storm water quantity and quality through infrastructure improvements, best management practices and citizen education are positive steps toward management of storm water and the pollutants it carries. *Implementation of the city's plan indicates strong, positive commitment on the part of the city toward addressing short and long term storm water issues.* The department looks forward to working collaboratively with the city toward betterment of water quality in southwest Missouri.

EPA Region 7 comments

Barker Creek Tributary (WBID 4083)

EPA provided a comment stating this water body is proposed to be newly listed for impairment due to an excursion of the EPA-approved Missouri water quality criterion for dissolved oxygen. In review of the state supplied assessment spreadsheet, it was noted that the assessment also recommended impairment by chloride plus sulfate and pH. However, the draft list does not include those two impairments.

Department Response

The Barker Creek Tributary was originally placed in Category 5 due to a violation of the general criteria during the 1998 listing cycle. In 2004, the water body was moved from Category 5 to Category 4A due to the approval of a TMDL for pH and sulfate that addressed the pollutant impairment. This water body will be removed from the proposed 2016 list and reinstated into Category 4A. A comment has been added to the Barker Creek Tributary assessment worksheet and the department's assessment database.

Bee Fork (WBID 2760)

EPA commented that this water body is proposed to be listed for contaminated sediments (lead). This water body was previously listed for lead in water and the supplied assessment spreadsheet also identifies lead in water, not sediment.

Department Response

The department appreciates the comment and EPA bringing this oversight to the department's attention. The pollutant for Bee Fork was inadvertently listed as impaired for lead in sediment, when the correct Category 5 listing should be lead in water. The pollutant matrix listing has been corrected on the proposed 2016 303(d) List.

Blackberry Creek (WBID 3184)

EPA stated this water body is proposed for listing due to a total dissolved solids impairment. It was previously listed for an excursion of the chloride plus sulfate criterion. The EPA-approved Missouri Water Quality Standards do not have a criterion for total dissolved solids but do for chloride plus sulfate. Under section 303(d), a state's waters are assessed against the state's EPA-approved water quality standards. In this case a listing for total dissolved solids could be an assessment of the state's narrative criteria, however, the state must still assess against the criterion of chloride plus sulfate. In its action on the 2014 Missouri Section 303(d) List, the EPA added this water body to the list for chloride plus sulfate.

Department Response

The department appreciates the comment and will correct the pollutant listing for Blackberry Creek. The chloride plus sulfate pollutant is not available as a dropdown option within the electronic reporting system, and therefore, total dissolved solids was selected as a place holder for the pollutant until the chloride plus sulfate pollutant can be manually entered into the system as the proper pollutant. The department will update the pollutant listing for Blackberry Creek to chloride plus sulfate. This correction was missed during the 2016 listing cycle, and was revised on the proposed 2016 303(d) List.

Brush Creek (WBID 1371)

EPA stated this water body is proposed to continue to be listed for dissolved oxygen. For the 2016 cycle an additional cause of total suspended solids has been added. In a review of the provided assessment spreadsheet it is noted that the assessment does not indicate an impairment for total suspended solids. The sheet explicitly states there are low levels of total suspended solids.

Department Response

The department appreciates the comment and EPA bringing this listing error to the department's attention. This pollutant was approved by EPA to be delisted during the

2012 listing cycle. This information was corrected in the department's database and the water body removed from the proposed 2016 303(d) List.

Brush Creek (WBID 3986, previously 418U of Blue River)

EPA commented that the assessments (sic) sheet has errors. The calculations are not in the same column as the data being assessed. The state did not use the same data that was used by EPA to list this water for PAHs in sediment. New data for this water body available at the KCwaters.org web site (the source was identified to the state during the 2014 listing cycle and, therefore, should be considered readily available) but was not used in the 2016 cycle assessment.

Department Response

The department accessed the data from KCwaters web site and updated the Brush Creek assessment worksheet. Following the department's methodology, the PAHs that exceeded the 150 percent PEC threshold in sediment, and match with the EPA 2014 Category 5 listing, include chrysene, phenanthrene, and pyrene. The department also assessed fluoranthene as exceeding the 150 percent PEC threshold.

Supplemental sediment data was also reviewed from Brushy Creek just across the state line in Kansas. This data indicated the PAHs that also exceeded the 150 percent PEC threshold were Benzo[a]anthracene, and benzo[a]pyrene.

Center Creek (WBID 3203)

EPA commented that this water body is proposed for delisting of lead contaminated sediments due to a change in the state's methodology for assessing potentially toxic sediments. While the geometric mean of all sediment samples now falls below the narrative threshold, all samples collected from mile 1 through 11.6 are greater than the threshold. This indicates that the new methodology results in an overall average of nontoxic sediments, while all samples from the area located within historic mining areas still indicate potential toxicity based on the methodology. As such, the ten mile portion of this assessment unit with toxic sediments greater than the state's narrative threshold is masked and not acknowledged by this proposal.

Department Response

In reviewing the site locations, three of the sites are located upstream of the historical mining areas (e.g. Webb City and Oronogo Mines). Bracketing river miles to assess the upstream and downstream sites separately does cause the lower reach of Center Creek

(approximately 13 miles) to exceed the 150 percent PEC threshold for lead in sediment. The department has revised the assessment worksheet to retain lead in sediment as part of the Category 5 listing and have added this water body/pollutant pair to the proposed 2016 303(d) List.

Flat River Creek (WBID 2168)

EPA commented that this water body is proposed to have the impairment cause of lead in fish tissue added for the 2016 listing cycle. A review of the EPA-approved TMDL for this water body (Big River TMDL, approved 3/24/2010) shows the TMDL targets specifically identified lead in fish tissue. As such, that TMDL applies to this cause and the water body/pollutant combination already has a TMDL. Additionally, the cadmium impairment has been shifted from water to sediment while the assessment spreadsheet indicates that the impairment remains in water and not sediment.

Department Response

The department appreciates the comment and EPA bringing this oversight to the department's attention. The department will reinstate the Category 4A listing for lead in fish tissue for this water body and remove the listing from the proposed 2016 303(d) List. A comment has been added to the assessment worksheet to note the EPA approved TMDL for Flat River.

Joplin Creek (WBID 5006)

EPA commented that this water body is proposed for listing with causes of lead and cadmium. In review of the assessment spreadsheet, no lead impairment is shown. The assessment identifies cadmium and zinc as impairments for this water body. However, there is only one excursion of zinc criteria shown in the sheet. One excursion does not require the state to identify an impairment. The assessment target is typically more than one excursion in three years on average.

Department Response

The department reviewed the assessment worksheet for Joplin Creek, and noted there were no chronic or acute exceedences for dissolved lead, one acute/chronic event for dissolved zinc, and seven chronic exceedences for dissolved cadmium. The assessment worksheet for Joplin Creek has been corrected, and the Category 5 listing for dissolved lead removed from the proposed 2016 303(d) List.

Mississippi River (WBID 1707, 1707.03)

EPA commented that this water body is proposed to continue its listing for E. coli. The water body identification number is not consistent between the 2014 list and the 2016 proposal.

Department Response

The department reviewed the draft 2016 303(d) List and found the error was due to rounding in Microsoft Excel. The Water Body ID (WBID) for the Mississippi River (WBID 1707.03) has been corrected on the draft 2016 303(d) List.

Peruque Creek (WBID 0216)

This water body is proposed for delisting based on a lack of fish kills since 2010. There is no information presented that indicates the fish population have recovered within the water body assessment unit. As such, a delisting may be premature if the fish community is absent. Time itself is not considered “good cause” for delisting an assessment unit.

Department Response

The department contacted the Missouri Department of Conservation to determine if any fish community data was available to support a delisting decision. It was communicated that no fish community studies have been completed within this stream reach, however, the fish kills in 2010 were most likely due to habitat and hydrologic alterations. Therefore, the department believes it would be appropriate to move this water body to the 4C category as being impaired by pollution and not a pollutant.

Turkey Creek (WBID 3217)

EPA commented that the department has proposed delisting this water body for lead in sediment. EPA stated the portion of the assessment unit between Hwy 66 and Hwy 249 are consistently above the target for listing with one exception. In addition, contaminated sediments using the new averaging methodology continue for cadmium and zinc. These multiple lines of evidence suggest continued impairment of this assessment unit. The department’s proposal to delist this water body pollutant combination was originally disapproved by EPA during Missouri’s 2014 listing cycle but was retained on the list by the EPA.

Department Response

The department reviewed the assessment worksheet for Turkey Creek. It was noted that sediment data collected in 1976 was retained in the dataset during the assessment cycle. This data is important for historical reasons, however, it may not be applicable to more recent site conditions. The historical data was placed within a separate data table on the assessment worksheet. In addition, the department reassessed the water body to bracket sites upstream of Hwy 66 separately from sites located between Hwy 66 and Hwy 43. It is important to note, the revised assessment does not indicate that lead exceeded 150 percent of the PEC threshold between Hwy 66 and Hwy 43. In addition, the use of the geometric mean calculation is consistent with how the PEC thresholds were developed. As a result of these analyses, the department will retain the request for lead in sediment to be delisted for this water body. No changes were made to the proposed 2016 303(d) List as a result of this comment.

Willow Branch (WBID 3280)

This water body is proposed for delisting of the causes of cadmium and lead contaminated sediments based on a new listing methodology. The listing is retained for zinc contaminated sediments. Similar to Turkey Creek (see above) this water body exhibits sediment concentrations of cadmium and lead in portions of the assessment unit that consistently exceed the concentration targets for listing. By taking the geometric mean of all samples this condition is masked.

Department Response

As previously mentioned, the use of the geometric mean for determining sediment pollutant concentrations is consistent with how the PEC thresholds were developed. In reviewing the assessment worksheet, the department noted an error in the 2014 site code and site description. This information has been corrected to reflect where the sediment sample was actually collected. The correction did not change the department's listing decision for this water body. As of 2014, the department has scheduled this water body for follow-up sediment monitoring.

Wilsons Creek (WBID 2375)

The data presented for delisting of PAH contaminated sediments in this water body do not agree with the data collected by EPA. It seems there have been mix ups in the location of some of the samples as data is attributed to sites on dates where no samples

were collected at those sites. If the state would like, EPA could resupply the original data for reassessment.

Department Response

The department reviewed the data provided by EPA and noted the original data did not download correctly from the EPA STORET. The assessment worksheet for Wilsons Creek was revised with the correct information and reassessed. Benzo[a]anthracene, chrysene, fluoranthene, phenanthrene, and pyrene exceeded the 150 percent threshold for PECs. These pollutants were in concentrations between 15 to 61 percent greater than the 150 percent PEC thresholds. Therefore, this water body will be retained as a Category 5 listing for these pollutants on the proposed 2016 303(d) List.

Missouri Department of Conservation's (MDC) comment

MDC recommended information provided on supporting 303(d) fish tissue assessment worksheets that referenced the "McKee, 2002 (Sport-Caught Fish Consumption in Missouri – 2002 Mail Survey)" citation be removed because the report cited was a draft report. The final report is in final preparations and the cited information contained on the 303(d) assessment worksheets will not appear in the final report.

Department Response

The department appreciates the comment. Since this citation was included as supplemental information and did not change the assessment determinations, the citation was removed from the fish tissue assessment worksheets.